open, the intake valve train effects the opening of the intake valves to admit pressurized air from the compressor into the cylinder for the purpose of purging the remainder of the spent gases through the exhaust ports. Crankshaft inertia carries the piston through the bottom-dead-center position to begin an upward movement. The purge of spent gases by the pressurized air continues until the piston, in traveling upward, effects the closing of the exhaust ports as it nears a position that is ¼ of the way from bottom-dead-center to top-dead-center. Near said time of closure of the exhaust ports, fuel is metered into the intake air stream by the fuel injectors and carried through the still open intake valves to the cylinder. As the piston nears a position that is ½ of the way from bottom-dead-center to top-dead-center in traveling upward, said intake valves are closed and compression of the fuel/air mixture begins. The pressurized air from the compressor is normally at about 2 times atmospheric pressure, therefore supercharging of the fuel/air mixture cylinder will occur from the time that the exhaust ports are closed by the piston to the time that the intake valves are closed by the intake valve train. At the time of closure of said intake valves, the compression of the fuel-air mixture is effected by the continuing upward travel of the piston and is once again fired by the spark plug as the piston nears the top-dead- center position, and thus the cycle continues."

Van Blaricom paragraph 11 sentence 4: "If the fuel injectors were to continue the delivery of fuel after the intake valves had closed, then the fuel would remain in the space behind the intake valves until it again became time for the intake valves to open on the next cycle. The raw fuel would then be carried through the open intake valves to the cylinder in the earliest portion of the intake air stream, and would thus be carried out the exhaust ports in the purge cycle to pollute the atmosphere."

Examiner stated: "As to Claim 1, Van Blaricom discloses...reciprocating means 1 to compress combustible material held within said housing means between the compressor means and the reciprocating means to cause detonation of said material..."

Applicant asks Examiner to note Van Blaricom describes fuel/air mixture held within a cylinder between a compressor and a piston, fuel/air mixture held within a cylinder compressed between a piston and a closed intake valve and fired by a spark plug. Van Blaricom does not describe compressing the fuel/air mixture between the compressor and the piston within a housing means to cause detonation, which does not require spark ignition, nor does Van

Blaricom describe fuel/air compressed within a housing means between a compressor and a piston fired by a spark plug, nor does Van Blaricom describe compressing fuel/air between a piston and a closed intake valve within a housing means to cause detonation, which does not require spark ignition, whereas applicant does disclose these structures and operations.

Applicant paragraph 0017: "Gear shafts 66 and 67 are crankshaft driven, counter rotating in opposite directions drawing intake air through intake port 40 and force the intake air into passage 50 from which it passes into cylinder 60. Fuel injector 52 projects into passage 50 through the rear wall of housing section 34 for injecting fuel into passage 50."

Applicant paragraph 0019: "As crankshaft 85 rotates crankshaft journal 81 pushes rotatably connected connecting rod 79 which pushes rotatably connected piston pin 70 and piston 76, towards internal housing wall 35, thereby reducing the volume within cylinder 60 and compressing the air held therein into passage 50. When piston 76 reaches approximately top dead center the fuel injector 52 injects fuel into passage 50 containing the compressed air from the compressor. High temperature of the compressed air confined within passage 50 ignites the incoming fuel from fuel injector 52 and combustion begins"

Applicant paragraph 0028: "FIG. 13 shows an embodiment wherein the fuel is injected into intake port 40''' and ignition means 41''' is placed in the wall of passage 50''' for igniting the fuel mixture in passage 50'''. FIG. 14 shows the embodiment wherein fuel is injected into passage 50'''' instead of into port 40'''' by fuel injector 52'''' which is located in the wall of passage 50''''.

Applicants specification and drawings disclose combustion initiated by injection of fuel into air compressed within a passage 50 between the compressor and the piston and this effect is commonly known as detonation of the fuel/air mixture and used in all diesel engine designs. Applicant respectfully suggests Van Blaricom discloses a spark ignition type engine not a diesel type engine whereas applicant discloses a diesel type engine and a spark ignition type engine. Applicant discloses a spark ignition type engine wherein spark ignition means ignites fuel/air mixture compressed between the compressor means and the piston. Van Blaricom does not disclose this design instead his design discloses igniting air/fuel compressed between a piston and a closed intake valve.

Examiner stated: "As to Claim 1 Van Blaricom discloses a two cycle internal combustion engine...wherein the improvement comprises the compressor means can compress more combustible material to the combustion process after detonation commences."

Applicant respectfully suggests that after the intake valves close all combustible material compressed within the engine housing by the compressor is compressed between the compressor outlet and the closed intake valves therefore the compressor means is not compressing more combustible material into the combustion process occurring within the combustion chamber and cylinder which are located below the closed intake valve. At bottom-dead-center piston position when the valve train opens the intake valves and the exhaust ports are fully open compressed air coming from the compressor decompresses to atmospheric pressure therefore the compressor means cannot compress more combustible material to the combustion process after ignition of the fuel/air mixture commences.

Applicant therefore respectfully requests Examiner allow claim 1.

CLAIMS 2 - 21: Claims dependent on claim 1. Applicant therefore respectfully requests the Examiner to allow dependent claims 2 - 20 if the Examiner allows claim 1 as the applicant requests.

CLAIMS 23 - 27: These independent claims are claim 1 including additional restrictive language. The applicant respectfully requests the Examiner to allow them if he allows claim 1 as the applicant requests.

Applicant points out that claim 39 was overlooked by Examiner and requests examination of claim 39.

NEW CLAIMS

I claim:

40. A internal combustion engine as defined in claim 36 wherein said camshaft drive gear train includes a crankshaft driven gear fixedly attached to one compressor gear shaft so said crankshaft can drive said compressor gear shaft.

41. A internal combustion engine as defined in claim 40 wherein said cooling means supplies combustible material for combustion to said compressor means.

42. A internal combustion engine having housing means, compressor means, reciprocating means, and fuel supply means, to cause combustion of said fuel between said compressor means and said reciprocating means wherein said compressor means and said reciprocating means receive a power transfer from said combustion.

43. A internal combustion engine as defined in claim 42 including fuel injection means.

44. A internal combustion engine as defined in claim 42 including ignition means.

45. A internal combustion engine as defined in claim 42 including cooling means.

46. A internal combustion engine as defined in claim 42 including lubrication means.

47. A internal combustion engine as defined in claim 42 including cylinder means.

48. A internal combustion engine as defined in claim 42 including piston means.

49. A internal combustion engine as defined in claim 42 including camshaft means.

50. A internal combustion engine as defined in claim 42 including valve means.

51. A internal combustion engine as defined in claim 42 including throttle means.

52. A internal combustion engine as defined in claim 42 including crankshaft means.

53. A method for a internal combustion engine, which comprises:

(a) compressing a fuel within a housing means between a compressor means and a reciprocating means to cause combustion wherein the energy of combustion is transferred to said reciprocating means and said compressor means.

54. The method for a internal combustion engine as defined in claim 52 wherein:

(a) said compressor means is rotationally connected to said reciprocating means.

55. The method for a internal combustion engine as defined in claim 53 wherein:

(a) fuel injection means injects fuel into said housing means.

56. A method for a internal combustion engine, which comprises:

(a) compressing a fuel within a housing means between a compressor means and a reciprocating means wherein the energy of combustion is transferred to said reciprocating means and said compressor means.

57. The method for a internal combustion engine as defined in claim 55 wherein:

(a) spark ignition means initiates combustion.

58. Apparatus for a internal combustion engine, which comprises

(a) a housing means;

(b) a compressor means;

(c) a reciprocating means;

(d) a fuel supply means;

(f) a means to compress fuel between said compressor means and said reciprocating means to initiate combustion, wherein the power of combustion is transferred to said reciprocating means and said compressor means.

59. The apparatus of a internal combustion engine as defined in claim 55, including:

(a) a spark ignition means.

60. The apparatus of a internal combustion engine as defined in claim 55, including:

(a) a cooling means.

61. The apparatus of a internal combustion engine as defined in claim 55, including:

(a) a lubrication means.

62. The apparatus of a internal combustion engine as defined in claim 55, including:

(a) a valve means.

63. The apparatus of a internal combustion engine as defined in claim 55, including:

(a) a bearing means.

64. A internal combustion engine having a housing means to provide the necessary spaces in the engine, a reciprocating means to output engine power and force combustion products out of the engine, a compressor means to force combustible material into said housing means and compress it there, a valve means to control fluids passing to said reciprocating means, wherein the improvement comprises a fuel supply means to supply fuel into said housing means upstream of said valve means to cause combustion to commence upstream of said valve means.

65. A two cycle internal combustion engine having a housing means to provide the necessary spaces in the engine, a reciprocating means to output engine power and force combustion products out of the engine, a compressor means to force combustible material into said housing means and compress it there, a valve means to control fluids passing to said reciprocating means, wherein the improvement comprises a fuel supply means to supply fuel into said housing means upstream of said valve means to cause combustion to commence upstream of said valve means.